

# FREE TRANSMITTAL for FY 2003

Effective 01/01/2003. Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$)**330.00**

Complete if Known **RECEIVED**

Application Number	09/887,929
Filing Date	June 22, 2001 <b>JAN 05 2004</b>
First Named Inventor	Dennis Paul Lorah <b>TC 1700</b>
Examiner Name	K.C. Egwim
Art Unit	1713
Attorney Docket No.	A01118 A

## METHOD OF PAYMENT (check all that apply)

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**18-1850**

**Rohm and Haas Company**

The Commissioner is authorized to: (check all that apply)

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## FEE CALCULATION

### 1. BASIC FILING FEE

Large Entity Small Entity

Fee Code (\$)	Fee Code (\$)	Fee Description	Fee Paid
1001 750	2001 375	Utility filing fee	
1002 330	2002 165	Design filing fee	
1003 520	2003 260	Plant filing fee	
1004 750	2004 375	Reissue filing fee	
1005 160	2005 80	Provisional filing fee	

SUBTOTAL(1) (\$)

### 2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Fee from  
Extra Claims below Fee Paid

Total Claims		-20** =		X		=	
Independent Claims		-3** =		X		=	
Multiple Dependent							

Large Entity Small Entity

Fee Code (\$)	Fee Code (\$)	Fee Description
1202 18	2202 9	Claims in excess of 20
1201 84	2201 42	Independent claims in excess of 3
1203 280	2203 140	Multiple dependent claim, if not paid
1204 84	2204 42	** Reissue independent claims over original patent
1205 18	2205 9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$)

\*\*or number previously paid, if greater; For Reissues, see above

## FEE CALCULATION (continued)

### 3. ADDITIONAL FEES

Large Entity Small Entity

Fee Code (\$)	Fee Code (\$)	Fee Description	Fee Paid
1051 130	2051 65	Surcharge - late filing fee or oath	
1052 50	2052 25	Surcharge - late provisional filing fee or cover sheet	
1053 130	1053 130	Non-English specification	
1812 2,520	1812 2,520	For filing a request for ex parte reexamination	
1804 920*	1804 920*	Requesting publication of SIR prior to Examiner action	
1805 1,840*	1805 1,840*	Requesting publication of SIR after Examiner action	
1251 110	2251 55	Extension for reply within first month	
1252 410	2252 205	Extension for reply within second month	
1253 930	2253 465	Extension for reply within third month	
1254 1,450	2254 725	Extension for reply within fourth month	
1255 1,970	2255 985	Extension for reply within fifth month	
1401 320	2401 160	Notice of Appeal	
1402 320	2402 160	Filing a brief in support of an appeal	330.00
1403 280	2403 140	Request for oral hearing	
1451 1,510	1451 1,510	Petition to institute a public use proceeding	
1452 110	2452 55	Petition to revive - unavoidable	
1453 1,300	2453 650	Petition to revive - unintentional	
1501 1,300	2501 650	Utility issue fee (or reissue)	
1502 470	2502 235	Design issue fee	
1503 630	2503 315	Plant issue fee	
1460 130	1460 130	Petitions to the Commissioner	
1807 50	1807 50	Processing fee under 37 CFR 1.17(q)	
1806 180	1806 180	Submission of Information Disclosure Stmt	
8021 40	8021 40	Recording each patent assignment per property (times number of properties)	
1809 750	2809 375	Filing a submission after final rejection (37 CFR 1.129(a))	
1810 750	2810 375	For each additional invention to be examined (37 CFR 1.129(b))	
1801 750	2801 375	Request for Continued Examination (RCE)	
1802 900	1802 900	Request for expedited examination of a design application	

Other fee (specify)

\*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$)**330.00**

## SUBMITTED BY

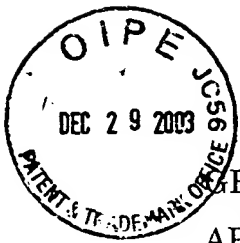
(Complete if applicable)

Name (Print/Type)	Ronald D. Bakule	Registration No. (Attorney/Agent)	32,681	Telephone	215-641-7822
Signature	<i>Ronald D. Bakule</i>	Date	December 23, 2003		

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This collection of information is required by 37 CFR 1.17 and 1.27. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231

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GROUP ART UNIT: 1713

APPEAL NO.

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JAN 05 2004  
TC 1700

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF APPEALS AND INTERFERENCES

APPELLANTS' BRIEF

Dennis Paul Lorah, et al.

Application for Patent Filed June 22, 2001

Serial No. 09/887,929

REDOX PROCESS FOR PREPARING EMULSION POLYMER HAVING  
LOW FORMALDEHYDE CONTENT

Ronald D. Bakule  
Agent for Appellants

K.C. Egwim  
Examiner

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PATENT

TC 1700

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF APPEALS AND INTERFERENCES

DN A01118A

In re application of

Dennis Paul Lorah, et al.

Paper No.: 10

Serial No. 09/887,929

Group Art Unit: 1713

Filed: June 22, 2001

Examiner: K.C. Egwim

For: REDOX PROCESS FOR PREPARING EMULSION POLYMER  
HAVING LOW FORMALDEHYDE CONTENT

Commissioner for Patents

Box 1450

Alexandria, VA 22313-1450

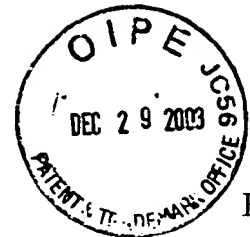
BRIEF FOR APPELLANTS

This is an appeal from the final rejection by the Examiner of August 6, 2003 rejecting claims 1-8. Appellants filed a Notice of Appeal pursuant to 37 C.F.R. 1.191 on November 6, 2003.

An authorization to charge payment of the fee for the filing of the Appeal Brief to Deposit Account 18-1850 is also enclosed.

12/31/2003 MGE BREM1 00000050 181850 09887929

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REAL PARTY IN INTEREST [37 C.F.R. 1.192(c)(1)]

The real party in interest is Rohm and Haas Company, 100 Independence Mall West, Philadelphia, PA 19106-2399.

RELATED APPEALS AND INTERFERENCES [37 C.F.R. 1.192(c)(2)]

There are no other related appeals or interferences that will directly affect or be directly affected or have a bearing on the Board's decision in the pending appeal.

STATUS OF CLAIMS [37 C.F.R. 1.192(c)(3)]

The status of the claims is as follows:

Allowed claims	-	none
Claims objected to	-	none
Claims cancelled	-	none
Claims pending	-	1-8
Claims rejected	-	1-8
Claims on appeal	-	1-8

STATUS OF AMENDMENTS [37 C.F.R. 1.192(c)(4)]

The rejected claims are set out in Appendix 1.

SUMMARY OF INVENTION [37 C.F.R. 1.192(c)(5)]

Appellants claim (claims 1-4) a process for preparing an aqueous emulsion polymer comprising

providing at least one ethylenically unsaturated monomer and a free radical redox initiator system under emulsion polymerization conditions, said redox initiator system consisting essentially of

t-alkyl hydroperoxide, t-alkyl peroxide, or t-alkyl perester wherein the t-alkyl group includes at least 5 Carbon atoms and

a non-formaldehyde-forming reducing agent; and

effecting the polymerization of at least some of said ethylenically unsaturated monomer.

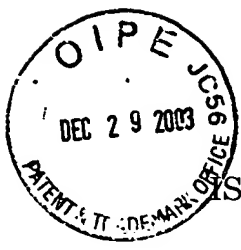
Appellants further claim (claims 5-8) a process for reducing the residual ethylenically unsaturated monomer content of an aqueous emulsion polymer comprising

contacting said aqueous emulsion polymer with a free radical redox initiator system, said redox initiator system consisting essentially of

t-alkyl hydroperoxide, t-alkyl peroxide, or t-alkyl perester wherein the t-alkyl group includes at least 5 Carbon atoms and

a non-formaldehyde-forming reducing agent; and

effecting the polymerization of at least some of said residual ethylenically unsaturated monomer.



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#### ISSUES [37 C.F.R. 1.192(c)(6)]

The issue is whether appellants' invention of claims 1-8 is unpatentable under 35 USC 102(b) by US Patent No. 5,540,987 to Mudge, et al. ("Mudge") or US Patent No. 5,415,926 to Leighton, et al. (Leighton")

#### THE REJECTIONS

Claims 1-8 stand finally rejected under 35 USC 102(b) as being unpatentable over Mudge or Leighton.

#### The Examiner's Arguments

The Examiner asserts that claims 1-8 are anticipated by Mudge or Leighton because each discloses preparing aqueous emulsion polymers from ethylenically unsaturated monomers in the presence of redox systems comprising a t-alkyl hydroperoxide ("t-alkyl HP") and a "non-formaldehyde-forming" reducing agent.

#### GROUPING OF CLAIMS [37 C.F.R. 1.192(c)(7)]

As to the rejections applied against claims 1-8 under 35 USC 102(b), it is appellants' intention that the rejected claims stand or fall together.

#### ARGUMENTS [37 C.F.R. 1.192(c)(8)]

The examiner rejected claims 1-8 under 35 USC 102(b) as being anticipated by Mudge or Leighton. Mudge and Leighton, in pertinent part, present the same disclosure and will be addressed together. Mudge and Leighton each disclose a redox initiator system for certain emulsion polymerizations including a hydrophobic hydroperoxide ("HP") and ascorbic acid or isoascorbic acid (a non-formaldehyde-forming reducing agent). Mudge's and Leighton's hydrophobic hydroperoxides are disclosed to "include, for example, t-Bu HP, t-amyl HP, cumene HP, and the like. Of the

hydrophobic HPs, t-Bu is preferred." Each of the examples of Mudge and Leighton includes only t-Bu HP.

Appellants claim a method, in an emulsion polymerization, using a redox initiator system consisting essentially of t-alkyl HP, t-alkyl peroxide, or t-alkyl perester wherein the t-alkyl group includes at least 5 Carbon atoms and a non-formaldehyde-forming reducing agent. Appellants' Samples 1-3 each used t-amyl HP with various reducing agents while appellants' Comparative Examples A-D each used t-Bu HP with various reducing agents. The results from the Samples of the invention are unexpectedly superior to those of the corresponding Comparative Samples. The performance of t-amylHP is not only unexpectedly superior to that of t-BuHP, given the apparent chemical similarity of the two compounds, but further, the difference is one of pertinent chemical kind rather than one of mere extent. The t-alkyl groups having at least five Carbon atoms preferentially undergo beta scission, in the case of t-amyl HP to generate from the first-formed t-amylloxy radicals, ethyl radicals. In contrast t-Bu HP forms t-butoxy radicals which are then capable of forming formaldehyde in aqueous systems. Therefore, the selection of t-alkyl HP, t-alkyl peroxide, or t-alkyl perester wherein the t-alkyl group includes at least 5 Carbon atoms as oxidant is material to providing minimum formaldehyde levels as sought by appellants and is a different invention from that disclosed in Mudge or Leighton. And the essential oxidants of the present invention consisting essentially of t-alkyl HP, t-alkyl peroxide, or t-alkyl perester wherein the t-alkyl group includes at least 5 Carbon atoms are not limited to HPs of any description as are those of Mudge and Leighton but are also recognized by appellants to include t-alkyl peroxides, and t-alkyl peresters wherein the t-alkyl group includes at least 5 Carbon atoms.

Appellants acknowledge the overlap of the composition of the redox initiator system of their method with that disclosed in Mudge or Leighton.

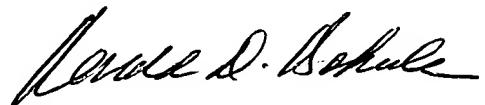
Appellants, however, respectfully submit that their claimed subject matter is not disclosed in Mudge or Leighton with "sufficient specificity" to constitute an anticipation, nor can their invention be clearly envisaged from the disclosure of Mudge or Leighton.

#### Conclusions

Appellants respectfully submit that the present invention as defined by claims 1-8 is not anticipated by Mudge or Leighton under 35 U.S.C. 102(b) because neither Mudge or Leighton disclosed appellants' invention with sufficient specificity..

Appellants respectfully request the Board to reverse the Examiner's rejections and enter a Notice of Allowance. The Commissioner is hereby authorized to charge any additional fee which may be required, or to credit any overpayments to Deposit Account 18-1850.

Respectfully submitted,



RONALD D. BAKULE

Agent for Appellants

Registration No. 32,681

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Rohm and Haas Company

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DATE: December 23, 2003



APPENDIX [37 C.F.R. 1.192(c)(9)]

CLAIMS 1-8

1. A process for preparing an aqueous emulsion polymer comprising providing at least one ethylenically unsaturated monomer and a free radical redox initiator system under emulsion polymerization conditions, said redox initiator system consisting essentially of t-alkyl hydroperoxide, t-alkyl peroxide, or t-alkyl perester wherein the t-alkyl group includes at least 5 Carbon atoms and a non-formaldehyde-forming reducing agent; and effecting the polymerization of at least some of said ethylenically unsaturated monomer.
2. The process of claim 1 wherein said redox initiator system further comprises a redox reaction catalyzing metal salt and, optionally, a metal complexing agent.
3. The process of claim 1 wherein said non-formaldehyde-forming reducing agent is selected from the group consisting of isoascorbic acid, sodium metabisulfite, sodium bisulfite, sodium dithionite, and sodium 2-hydroxy-2-sulfinatoacetic acid.
4. The process of claim 1 wherein the polymerization of at least 95% by weight of said ethylenically unsaturated monomer is effected.
5. A process for reducing the residual ethylenically unsaturated monomer content of an aqueous emulsion polymer comprising contacting said aqueous emulsion polymer with a free radical redox initiator system, said redox initiator system consisting essentially of t-alkyl hydroperoxide, t-alkyl peroxide, or t-alkyl perester wherein the t-alkyl group includes at

least 5 Carbon atoms and a non-formaldehyde-forming reducing agent; and effecting the polymerization of at least some of said residual ethylenically unsaturated monomer.

6. The process of claim 5 wherein said redox initiator system further comprises a redox reaction catalyzing metal salt and, optionally, a metal complexing agent.
7. The process of claim 5 wherein said non-formaldehyde-forming reducing agent is selected from the group consisting of isoascorbic acid, sodium metabisulfite, sodium bisulfite, sodium dithionite, and sodium 2-hydroxy-2-sulfinatoacetic acid.
8. The process of claim 5 wherein the polymerization of at least 90% by weight of said residual ethylenically unsaturated monomer is effected.



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HAVING LOW FORMALDEHYDE CONTENT

Commissioner for Patents

Box 1450

Alexandria, VA 22313-1450

CERTIFICATE OF FIRST CLASS MAILING

Dear Sir:

I hereby certify that this Original Appeal Brief and 2 copies are being deposited as First Class Mail with the United States Postal Service in an envelope addressed to the Commissioner for Patents, Box 1450, Alexandria, VA 22313-1450 on the date indicated next to my signature below.

Date Dec. 23, 2003

Signature